

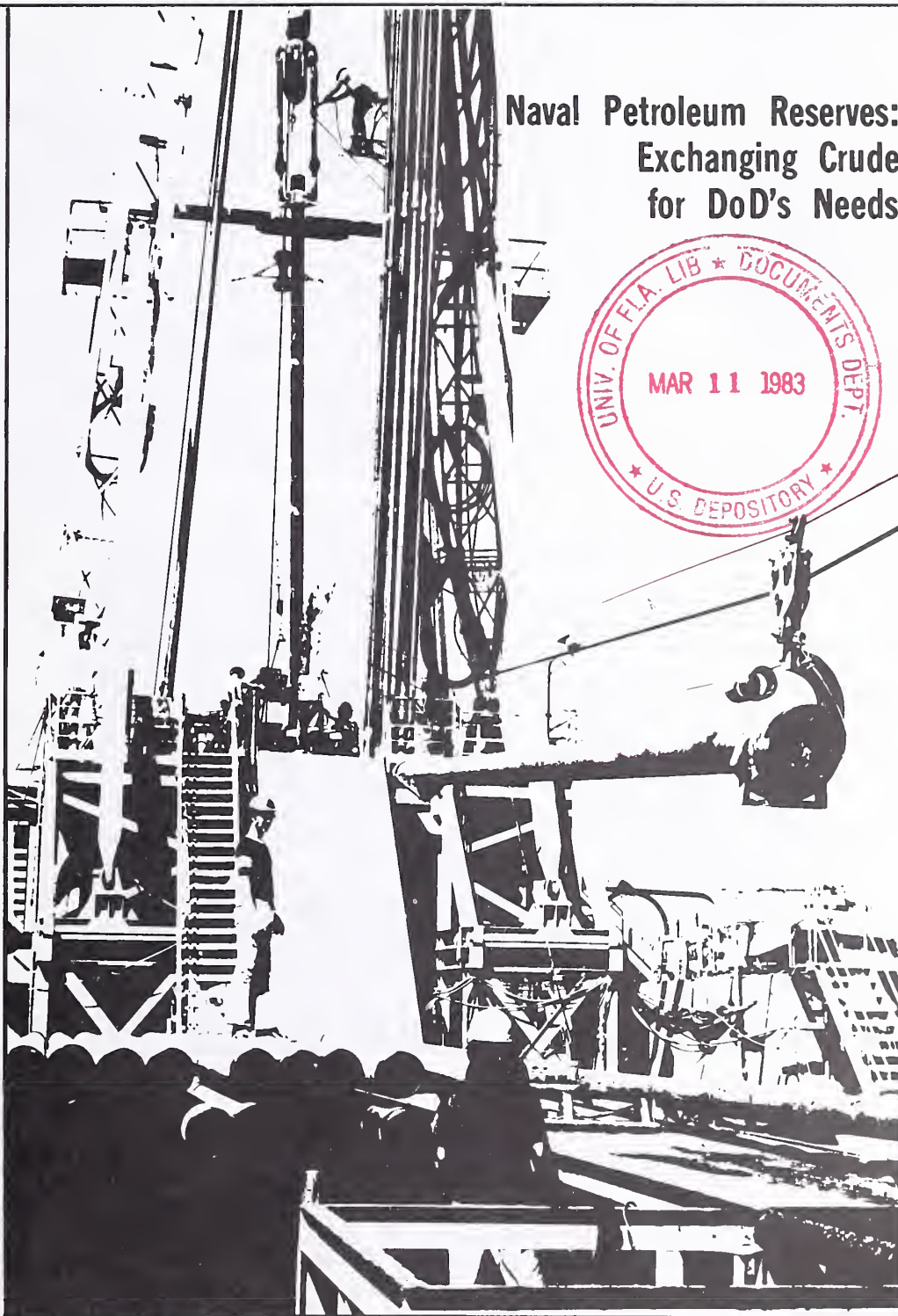


DEFENSE FUEL SUPPLY CENTER

DFSC Fuel Line

DEFENSE FUEL SUPPLY CENTER
CAMERON STATION ALEXANDRIA, VA 22314

January-March 1983



Naval Petroleum Reserves:
Exchanging Crude
for DoD's Needs



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RADM W. J. Ryan, SC, USN
Commander, Defense Fuel Supply Center

Col J. W. Hopp, USAF
Deputy Commander, Defense Fuel Supply Center

Donald J. Peters
Public Affairs Officer

Denise M. Gower
Editor

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ON THE COVER: A well drilled at the Naval Petroleum Reserve in Elk Hills, California is completed by the cased-hole method. The NPR Production Act, passed in 1976, mandated increased rates of production at all of the Reserves. (Department of Energy photo)

The Evolving Tale of The Naval Petroleum Reserve

by Denise M. Gower
(The contributions of W.A. Chapman, Dan Calhoun, and Major Don Peschka, all of the DFSC Directorate of Contracting and Production, are gratefully acknowledged.)

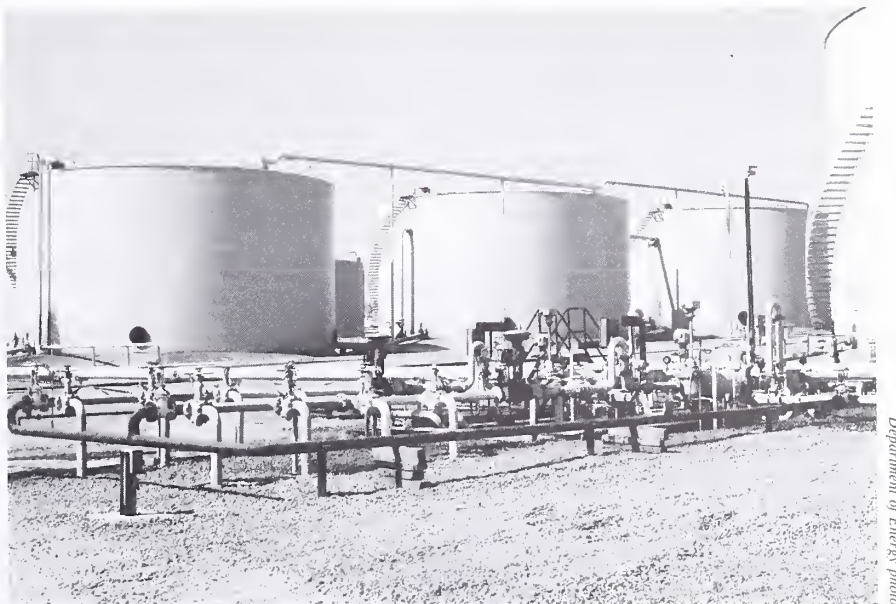
Intermittent supply shortages have plagued military petroleum stocks ever since the 1973 Arab oil embargo. In an effort to ensure an adequate supply of fuel to the armed forces and to lessen the military's vulnerability to petroleum supply disruptions, DOD has vigorously pursued a supply-assurance program. One dimension of this program is the exchange of crude oil produced in the Naval Petroleum Reserve (NPR) at Elk Hills, California and Teapot Dome, Wyoming for refined products that meet military

specifications. An agreement between DOD and the Department of Energy (DOE) signed on 15 June 1981 made administration of this particular aspect of the supply-assurance program the responsibility of DFSC. It is expected that the exchange of the crude oil will satisfy a significant portion of DOD's domestic bulk fuel requirements.

The first contracts under the exchange program were awarded in June 1981. From July through 30 November 1981, approximately 5,000 barrels per day of crude oil from NPR-3 at

Teapot Dome were exchanged for an equivalent amount of JP-4. A major advance in the program occurred in October 1981 with the awarding of six contracts to exchange NPR-1 at Elk Hills and NPR-3 crude for JP-4. These contracts will provide approximately 10.2 million barrels of JP-4 each year over a five-year period.

In March 1982, 21 contracts were awarded. Approximately 102,000 barrels per day of NPR crude oil provided by DOE to DOD was exchanged to cover the JP-4, JP-5 and DFM require-



CHANGE OF HANDS — Crude oil at NPR-1 stored in the tanks shown in the background officially becomes the property of the purchaser as it passes through the custody transfer meter associated with the manifold shown in the foreground. Most of the oil which DFSC uses for its exchange program goes through a specially-designated pipeline in this system.

ments for the East and Gulf Coast areas from 1 May 1982 until 30 September 1982.

The most extensive exchange program was finalized on 17 September 1982. Beginning on 1 October 1982, the JP-4 and DFM requirements for the entire continental U.S. will be provided using the NPR crude. Under this exchange program, DOE will provide a total of approximately 95,000 barrels per day of NPR crude oil to 28 contractors who will provide the required JP-4 and DFM.

These latest contracts for the exchange of crude oil contain a number of unique features. Some of these are:

- Successful offerors must accept the crude in the prescribed percentage of crude in relation to product requirements.
- Contractors may refine, sell or exchange the NPR crude.
- The minimum lift quantity has been increased from 25% dictated in earlier solicitations to 75%.
- Contractors are required to supply a performance guarantee in the form of a letter of credit.
- The dollar value of the crude changes with the average of the three highest postings.
- The dollar value of the product changes with a common posting.
- DFSC has the unilateral right to

extend the contract up to three additional months.

The exchange program, by virtue of its emphasis on supply assurance, fulfills the original intent of the NPR. Just as attention is focused today on averting supply shortages, the maintenance of an assured source of oil for the Navy was a concern in the early 1900s, prompting President Theodore Roosevelt to conceive the idea of the NPR. On 27 September 1909, President Taft took the first step toward its realization by signing an Executive Order which withdrew certain public lands from general sale.

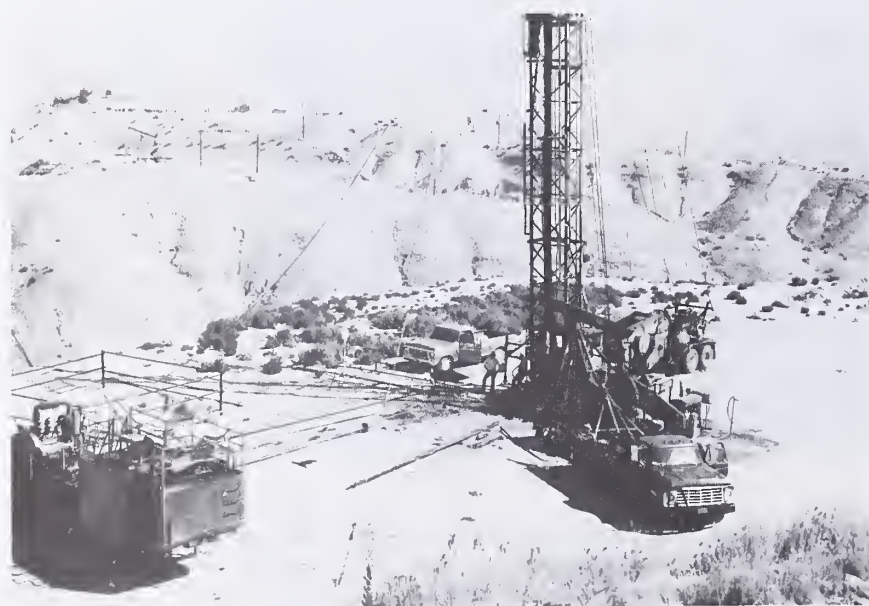
At the request of the Navy, the Secretary of the Interior subsequently identified a portion of these lands in the Elk Hills area, located at the

"After passage in 1976 of the NPR Production Act, which mandated maximum efficient rates of production, the Government began ambitious development and exploration programs at the NPRs."

southern end of the San Joaquin Valley in Kern County, California as being capable of producing 500 million barrels of oil. An Executive Order signed on 2 September 1912 set aside 38,073 acres of this area, establishing it as Naval Petroleum Reserve No. 1 (NPR-1). Executive Orders signed by President Franklin Roosevelt in 1942 and President Truman in 1949 extended the boundaries of this land. Today NPR-1 comprises 47,360 acres, 78.85 percent of which is owned by the Government and the remainder by Chevron U.S.A.

Beginning with its creation, NPR-1 was managed by the Secretary of the Navy except for a period between 1921-1927 when it was assigned to the Department of Interior. With the establishment of DOE in 1976, control over exploration, development, operation and production was vested in the Secretary of Energy. These activities are supervised and directed by an Operating Committee composed of one member each from the Government and Chevron. In addition, an Engineering Committee of engineers and geologists, with three members from the Government and three from Chevron, serves as a consulting body for the Secretary of Energy and the Operating Committee. The existing Unit Plan Contract which provides for the exploration, development, and operation of NPR-1 was authorized by Congress and signed and approved by President Franklin Roosevelt in June 1944. The Williams Brothers Engineering Company signed a five-year contract in October 1980 to operate NPR-1 on a Cost-Plus-Award-Fee basis.

Production from NPR-1 is generally recognized as having started in 1919 from a well drilled by SOCAL (now



Department of Energy photo

WORK OVER — A work over drill rig is employed in the Shallow Oil Zone at Elk Hills (NPR-1) to increase production of oil where it had begun to decline.

Chevron), but U.S. Geological Survey records indicate a well was completed on 16 June 1911 with an initial production of 75 barrels per day. After 1919, development increased rapidly until production reached a high of 60,000 barrels per day in 1921.

Between 1932 and 1943, production was steadily reduced and then maintained at 10,000 barrels per day. By November 1942, 153.3 million barrels of oil had been withdrawn from NPR-1. A joint resolution of Congress passed near the end of World War II directed that production be raised to 65,000 barrels per day. During the war years, 27 million barrels of oil were produced. On 18 August 1945, production was reduced to 15,000 barrels per day and was thereafter incrementally lowered until it reached 2,500 barrels per day just prior to open-up on 3 July 1976.

NPR-3, located at Teapot Dome in Natrona County, Wyoming was established by an Executive Order signed by President Wilson on 30 April 1915. Originally encompassing 9,321 acres, NPR-3 was enlarged to its present size of 9,481 acres by President Hoover in 1932. It is wholly owned by the Government.

“The exchange program, by virtue of its emphasis on supply assurance, fulfills the original intent of the NPR. Just as attention is focused today on averting supply shortages, the maintenance of an assured source of oil for the Navy was a concern in the early 1900s. . .”

NPR-3 was managed by the Navy until 23 May 1921, when President Harding transferred this responsibility to the Department of Interior. The lands were subsequently leased to Mammoth Oil Company which began initial production on 17 November 1922. The leasing arrangements came into question almost immediately, this being the first inkling of the infamous Teapot Dome scandal. The operations were placed into receivership on 13 December 1927 after the leases were declared null and void by the Supreme Court.

In January 1928, management responsibility was returned to the Navy.



Department of Energy photo

HOLDING — Liquefied petroleum gas is stored in these tanks at NPR-1.

The Navy maintained an office at NPR-3 until 1949 when the U.S. Geological Survey assumed the task of monitoring well pressures. Except for a brief period between 1951 and 1953, the Navy had no full-time personnel at NPR-3 until it reestablished its office

drilling of 22 new ones. Two of these wells were completed and are currently on production.

After passage in 1976 of the NPR Production Act which mandated maximum efficient rates of production, the Government began ambitious development and exploration programs at the NPRs. At the close of FY 81, 1,355 wells had been drilled at NPR-1 since the beginning of the program, bringing the field total to 2,055 including the shut-in and abandoned wells. Located at NPR-3 were 547 active production and injection wells at the close of FY 81. Production during FY 81 averaged 171,533 barrels per day at NPR-1 and 3,307 barrels per day at NPR-3.

In addition to the exchange program, DFSC has been involved with the NPR through its role as an agent for DOE in arranging for the exchange of NPR-produced oil for oil delivered to the Strategic Petroleum Reserve (SPR). During FY 81, 35 million barrels of oil for the SPR were procured through this method.

On 6 October 1981, President Reagan directed that maximum NPR production be continued for three years beyond April 1980, a decision which has been accepted by Congress. Thus DFSC expects to continue to exchange NPR crude to meet a portion of DOD fuel requirements for some time in the future.

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there in 1958.

After dissolution of the Mammoth operation, NPR-3 was inactive until the period of 1951-53, when three exploratory wells were drilled. Between 1958 and 1970, 104 wells were drilled along the eastern boundary of the Reserve to prevent drainage by private operators on surrounding lands.

In 1965, a waterflood was initiated by private operators in the Second Wall Creek formation. In order to avoid drainage and reservoir damage, the Navy began offset production operations, requiring the reworking of 16 of the old Mammoth wells and the

Careful Planning Accompanies Bulk Petroleum Management Automation

by Colonel Pedro Nájera, USA

Development and maintenance of the Defense Fuel Automated Management System, better known as DFAMS, are the most important functions of DFSC's Office of Telecommunications and Information Systems. DFAMS is an automation of the processes that produce contracting, supply, transportation, storage, and accounting management data. In addition to meeting the needs of DFSC, DFAMS will meet all DOD data objectives in the area of bulk petroleum management.

Before full-scale development of DFAMS began, a considerable amount of effort was expended in the management and automation planning areas directed toward the development of objectives for an advanced Automated Data Processing (ADP) system which would operate in an intensively controlled management environment. It was imperative that the system be designed to respond to national policies of economy and conservation and to DOD requirements for operational efficiency.

Five management objectives were established. They are:

- *Timely and accurate management information* must be provided to all policy-making, management, and operational levels as a normal output of the management system and the integrated data base.

- *Strengthened inventory and financial controls* should result from the timely and accurate reporting of all transactions that occur in the contracting, supply, and financial subsystems.

- *Increased visibility* of activity, particularly, assets and usage at all levels, should result.

- *Improved requirements forecasting* should be achieved by capitalizing on the increased visibility, accuracy, and timeliness of consumption and program data.

- *The fulfillment of stringent audit and inspection criteria* must be applied continuously under a positive, worldwide program.

In addition to these five management objectives, four automation objectives were established. They are:

- *A single system utilizing standard codes, formats, and procedures* should be accomplished through the consolidation of the various mechanized and manual processes that currently support mission performance and should be based upon a current DOD Standard System.

- *An integrated data base* which supports the functions and informational needs of all management and operational levels should be established.

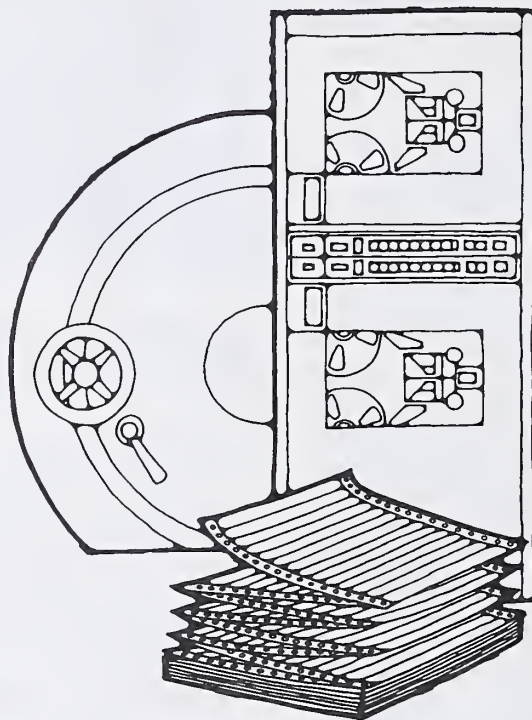
- *Maximum customer support and responsiveness to military requirements* should be maintained for func-

tions, at all times, on a worldwide basis, in peace or in war.

- *Benefits to the U.S. Government* should be provided in the form of reduced operating costs and improved supply management.

Probably the most critical objective in ensuring the success of DFAMS is the acquisition of timely data to support the system, for without the automated and timely submission of data to DFSC, DFAMS could not meet established management and automation objectives. The goal is the receipt of error correction within 24 hours of error notification. The Military Standard Petroleum System (MILS-PETS), which provides standard codes, formats, and procedures, was developed to support this project.

Because of a need for a General Accounting Office (GAO) certifiable accounting system, the accounting and



related support applications were developed first. As a result, the Accounting System Applications were certified by GAO last spring and implemented by DFSC on 1 October 1982, bringing about a number of improvements.

The implementation of the accounting system function has made a single input of contract data possible. MILSPETS standard record formats and forms are used to feed Defense Fuel Support Points (DFSP) and enable the direct delivery of data to the system in lieu of the former practice of mailing in a multitude of documents. Also, manual processes such as general ledger accounting and services accounting are computerized. And finally, all basic data are entered into a single job stream to validate and update files.

Through DFAMS, much of the detailed data required by the accounting system can be transmitted from remote locations. The five CONUS Defense Fuel Regions (DFRs) collect data from the Defense Fuel Support Points throughout the United States and then enter it on computer terminals for direct input into DFAMS in machine-readable MILSPETS format. The submission of data from overseas

sites is primarily achieved by a group of Overseas Control Points (OCPs) which collects data from those DFSPs that do not have electronic transmission capabilities and then prepares that data for transmission to DFSC via the Automatic Digital Network (AUTODIN).

Currently, the Service-managed CONUS support points and DLA-managed overseas support points use the AUTODIN system to report MILSPETS transactions to DFAMS. Data sent by mail to DFSC from remote locations and MILSPETS overseas reporting points that do not have electronic transmission capabilities are entered locally at Cameron Station through the Four-Phase Incorporated Key-To-Shared Processor (KSP) Data Entry Computer System.

The KSP Data Entry Computer System, which replaced keypunch machines and eliminated the need for coding transactions through conversion, enables data transcribers to enter data directly into the computer. It provides faster computer data processing and is the primary method of off-line conversion of source documents to computer-readable formats for DFAMS.

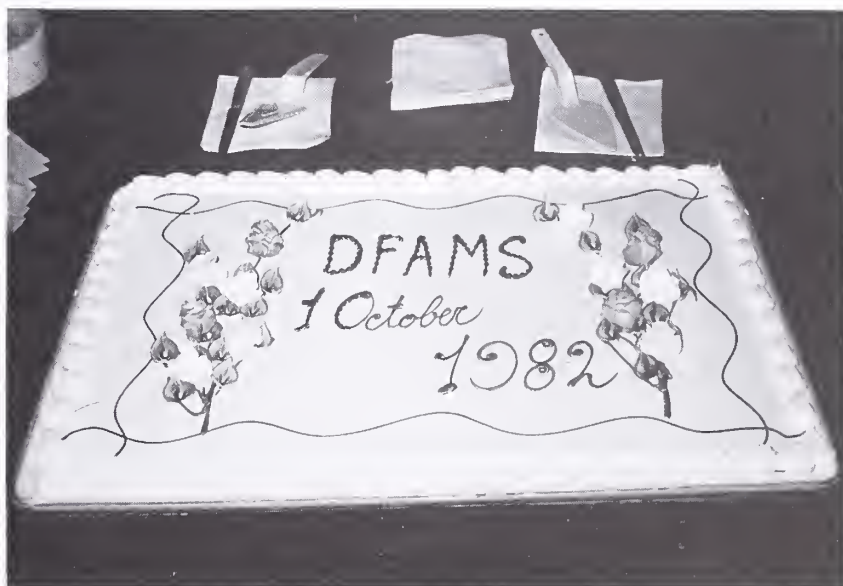
Continuing development efforts will lead to other DFAMS applications, including systems for supply, contracting, technical operations, market research, transportation, etc. But even in its infant stage, DFAMS is an integrated management information and financial system which truly supports the DFSC mission in a more accurate and timely manner. When fully implemented, DFAMS will lead to better, more efficient bulk petroleum support for all DOD components worldwide.

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COL. PEDRO NÁJERA, USA was formerly the Director of DFSC's Office of Telecommunications and Information Systems. He recently left DFSC to become the chief of the Army Energy Office at the Pentagon.

DFAMS: Off and Running

The implementation of the accounting functions of the Defense Fuel Automated Management System (DFAMS) was observed on 1 October 1982 with cake, coffee, and words of high hope. Hosted by Colonel Najera, the Director of the Office of Telecommunications and Information Systems, the celebration was held to thank the many DFSC personnel whose years of work enabled the start-up of the system. Responsibility for the design, development, and implementation of DFAMS was assigned to DFSC in 1976. While thanking the personnel, both Colonel Najera and the DFSC Commander, RADM Ryan, also expressed their confidence in the employees' ability to ensure the success of the new system and completely eliminate the old.



DFSC Supply Efforts Keep Millions Warm, Safe, and Dry

by Denise M. Gower, Editor

If you were comfortably warm in the Federal building you were in today, or if you received your mail, you can thank DFSC. If you were an isolated villager in Alaska, you might thank DFSC for keeping your boats operating and enabling the supply of heat and electricity to your homes, churches, and schools. And if the nation ever faces another oil supply crisis, we'll be better prepared to weather it . . . thanks in part to DFSC.

DFSC is literally fueling the nation. While its activities in support of the military are well-known, most people are unaware that civilian agencies rely on DFSC to fulfill their major requirements for coal, petroleum, and petroleum-related products. In fiscal year 1982, more than 9.3 million barrels of petroleum products and nearly 251 thousand short tons of coal were procured for civilian agencies. While that's only 4% of the total amount of petroleum products and 17% of the coal procured by DFSC, the Center supports over 800 more civilian activities than military. This provision of fuel is of utmost importance to the effective functioning of the U.S. Government.

The U.S. Postal Service, the Department of the Interior, and the Department of Agriculture are DFSC's biggest civilian customers, but every department of the government as well as some independent establishments and government corporations such as NASA, GSA, and the Veterans Administration receive some of their fuel requirements through the services of DFSC. The greatest requirement is for motor gasolines — 22% of the motor gasoline procured by DFSC goes to civilian agencies, with more than one-third of this used by the Postal Service. However, a variety of other products, including residual fuel oil used to generate steam for ships and



American Petroleum Institute photo

heating plants, distillate fuel oil used for heating, a number of types of aviation gasoline, various packaged petroleum products, and coal are all procured as needed.

Most of the civilian activities are covered under the Posts, Camps, and Stations (PCS) contracts. Civilian agencies are required by Federal Property Management Regulations and the U.S. Postal Service under interagency agreement with DLA to submit to DFSC all requirements in excess of 10,000 gallons each for burner fuel oils, diesel oils, gasolines, gasohols, and kerosenes. However, DFSC may contract for smaller amounts for civilian activities if they do not have the procurement authority or capability to procure locally.

Activities submit their requirements on a phased schedule by CONUS region. The process begins approximately two months prior to the requirements due date when a computer printout of the previous year's requirements is mailed to each activity. Each agency is given 45 days to review and update the requirements with the options of increasing and decreasing quantities, adding and deleting products, or returning the requirements data as is. In order that proper coverage is assured, they must also provide information on a number of other factors including available storage tanks, delivery modes and special equipment required, delivery hours, special product specifications, and sulphur limitations. After all requirements are returned to DFSC, they are reviewed by the Inventory Management Division and consolidated into a pre-solicitation document for the region. This is forwarded to the Ground Fuels Division which solicits by formally advertised procedures for the needed products. When contracts have been finalized, a contract bulletin is published for the region from which customers may order for local delivery. Under the most recent CONUS PCS contracts, more than one-quarter of the 27.2 million barrels of petroleum products procured went to non-DOD activities.

Two civilian programs are handled separately under the PCS contracting method. The GSA Fuel Yard, which supplies heating fuels for Federal buildings within a 30-mile radius of

the nation's capitol, was provided with more than 1.1 million barrels of residual and distillate fuel oils in FY 82 through DFSC contracts. Millions of people from the President on down have DFSC to thank in part for the protection from Washington, D.C.'s bone-chilling winters.

A somewhat more dramatic program, the *North Star* operation, is also supplied in part by PCS contracts. Each year *North Star III*, a vessel operated by the Seattle office of the Bureau of Indian Affairs, makes a six-month voyage to deliver supplies to Indian villages in remote areas of Alaska. The villages which *North Star* visits are extremely isolated, and the ship's arrival is a major event in the villagers' lives as it carries food,

sels and transport trucks.

Down in the lower 48 States, as well as in Alaska, Hawaii, the Virgin Islands, and Puerto Rico, the U.S. Government National Credit Card has come in handy for operators of Government vehicles, small airplanes and boats. Issued by GSA, the card is used to obtain fuels, services, and minor emergency repairs when Government-supplied services and products are not locally available. DFSC's Ground Fuels Division contracts with service stations and other suppliers on an annual basis. Bidders specify the fuels and services they wish to provide and the states in which they wish to provide them as well as any discounts they will offer. Once the contracts are awarded, an operator's guide is pub-

"While its activities in support of the military are well-known, most people are unaware that civilian agencies rely on DFSC to fulfill their major requirements for coal, petroleum, and petroleum-related products."

furniture, and medicine as well as fuel to sustain their communities for a year.

During the most recent *North Star* operation, over 3.7 million gallons of bulk and packaged petroleum products which DFSC had procured were delivered to these Alaskan villages. Their local economies are heavily dependent on these petroleum products. Gasolines are needed to operate light plants and outboard motors, and heavier fuels such as high-gravity stove oils are used to heat individual homes, churches, and schools. Diesel oils are utilized for large power sources in the operation of generators to light and furnish electricity to homes in the villages.

Project Cool Barge, another Alaskan resupply program, is also supported by DFSC. While Cool Barge is a DOD program which primarily supplies military installations, some federal offices are provided with petroleum products through the project as well. Civilian agency requirements are submitted to Defense Fuel Region-Alaska each year and are consolidated with those of the military. Final deliveries are made from the supplier's Alaskan storage points in small liftings by Government-furnished barges, ves-

lished which lists the service providers, their locations, and any discounts offered. Operators of government conveyances may use their cards at any of the suppliers listed. Bills which accrue from use of the card are paid by the agencies whose employees used it.

Probably the best known civilian program supported by DFSC is the Strategic Petroleum Reserve (SPR). Since its establishment in 1975, the SPR has been much in the public eye as it serves as our insurance against a serious supply crisis. The Department of Energy (DOE) is responsible for the overall management of the SPR, including the determination of the amount and quality of oil to be stored, but DFSC acts as DOE's purchasing agent.

Since the signing of an interagency agreement in 1977, DFSC has purchased all but 17 million barrels of the 288 million barrels of crude oil which are in SPR storage. DFSC purchases are based on requirements provided by DOE which include quality specifications, quantities, and delivery time frames.

The Special Projects Office and the Special Contracts Division which

work together on the SPR Program are currently utilizing an open-continuous solicitation to procure crude every two weeks on the "spot market" — that is, a supplier offers a specific amount at a fixed price. When all offers are received, they are compared against current market information provided by DFSC's Office of Market Research and Analysis. Negotiation with offerors then ensues and a request is made for a "best and final offer." After consultation with DOE and the DFSC Commander, awards are made. It's a fast-paced process which takes place every two weeks — less than 24 hours elapse between the "best and final offer" and the final decision.

In addition to these contracting and market information services, DFSC also provides quality assurance services performed by Defense Fuel Region-Europe when DFSC is arranging the crude oil's transportation. When the price of the crude includes its transportation, quality assurance services are provided by DCAS at the salt caverns in the Gulf Coast area where the SPR oil is stored. DFSC's efforts towards filling the SPR may one day ensure our nation's survival during a time of crisis.

These are just a few examples which demonstrate DFSC's profound in-



American Petroleum Institute photo

FROZEN — Alaskan weather conditions often "ice-in" the coastline making seasonal deliveries of supplies necessary. Indian villages and Federal civilian agencies receive provisions for a year from two supply programs to which DFSC contributes.

fluence on the functioning of our nation. DFSC, by providing its services to agencies outside DOD, is helping to ensure the nation's security and well-being in more ways than one.

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American Petroleum Institute photo

WASHINGTON, D.C. — The Federal Government's fuel needs are satisfied in large measure by the activities of DFSC.

DFSC Energy Savers Recognized

by Denise M. Gower, Editor

The Department of Energy believes that DFSC harbors quite a few energy savers, and to show its appreciation of that fact, the Secretary of Energy Award for Energy Efficiency has been presented to the Transportation Division, the Environmental Control Office, and Major Henry Meyer, USA, of the Lubricants and Specialty Products Division. The awards cite "dedicated effort toward achieving national energy efficiency."

DFSC's Transportation Division and the Environmental Control Office received a joint award in recognition of their accomplishments in effecting the establishment of a pipeline between the Norwalk, California Defense Fuel Support Point and Edwards Air Force Base (AFB). Over the next six years, more than 5 million barrels of jet fuel (JP-4) will be delivered by the pipeline, saving nearly 1.5 million gallons of automotive fuel which would have been used to ship the JP-4 in tank trucks. It is estimated that approximately \$427,000 in transportation costs will be saved each year. More importantly, the pipeline connection provides a more assured and secure means of supplying jet fuel to Edwards AFB.

Initially, representatives of the Transportation Division and the Environmental Control Office met with logistical and environmental personnel of HQ Air Force Systems Command, HQ Tactical Air Command, and Edwards AFB and George AFB Engineering Groups to resolve the many jurisdictional and real estate problems involved in the pipeline's establishment. After these matters were resolved, with the concurrence of all parties affected by the proposed pipeline, the Transportation Division oversaw all efforts to make the pipeline a reality.

In close cooperation, the Environmental Control Office assured that all legally required environmental actions were taken. Their efforts were complicated when two archaeological sites and a group of rare alkali mariposa lilies, an endangered plant species,

were discovered to be in proximity to the planned construction site.

The CALNEV Pipeline Company connected its pipeline with Edwards AFB in August 1980 and began its operation in October of that year.

Maj. Meyer was recognized for his achievements while serving as the Resource Management Officer for the Army National Guard (ARNG). In addition to raising awareness of energy conservation issues through a variety of publications, he was responsible for the establishment of an energy management officer position in each of the 50 States. He also wrote the ARNG Energy Plan, which set policy, goals, and guidelines for the use of fuel.

His efforts resulted in an extraordinary energy conservation effort. Despite fuel inefficient equipment, increased strength and fuel-intensive training programs, a significant de-

crease in the use of mobility fuels was effected. Savings in the area of facilities management were also realized despite an increase in square footage. It is estimated that Maj. Meyer's efforts resulted in a reduction of energy use by 6 trillion Btu.

The fifth Defense Energy Awareness Week was observed recently with a ceremony held at the Pentagon to honor DOD's recipients of the Secretary of Energy Award. DFSC's Commander RADM William J. Ryan escorted Environmental Control Officer William Goode and Gerritt Beatty, Chief of the Transportation Division to the function. Sixty Defense individuals and organizations who cut energy wastes and costs in DOD operations were recognized with this award.

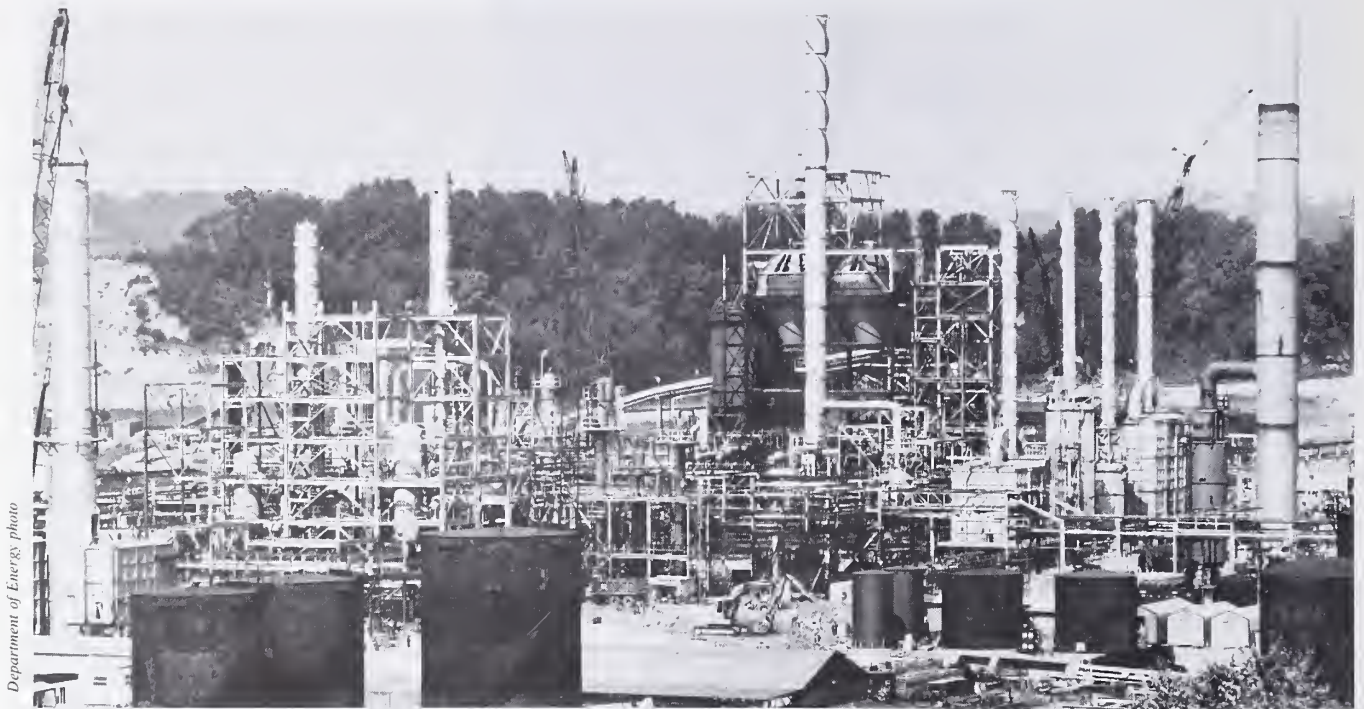
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EFFICIENCY EXPERTS — Personnel from DFSC's Transportation Division and the Environmental Control Office display the Energy Efficiency Award presented to them on behalf of the Secretary of Energy. The group worked to establish a pipeline which is expected to save millions of dollars.

Economical Coal-to-Liquid Conversion on the Horizon

by Eddie J. French



The H-Coal Process, developed by Hydrocarbon Research Inc., a subsidiary of Dynalelectrons Corporation, may be one of the most economical and technically advanced processes for the production of liquid fuel from coal that is near commercialization. The process, essentially hydrogenation of coal, is much more direct than coal gasification processes which convert coal to gas and then, by some other means, to a liquid.

Under the auspices of several companies and the Department of Energy, a pilot plant located in Catlettsburg, Kentucky is currently using the H-Coal Process to convert 200 to 600 tons of coal per day into liquid fuels. The information gained from the

operation of the plant is being used to finalize plant design and production planning for similar large-scale production (50,000 barrels per day) facilities.

High-sulfur coal, which by its nature is environmentally unfit for use as a heating fuel, is used as the feedstock for the H-Coal Process. The process itself has two operating modes. The first utilizes approximately 200 tons of coal per day to produce 600 barrels of a product which can be further refined into middle distillates. Products produced by this mode can be refined into middle distillate diesel fuel or turbine fuel which meets DOD's jet fuel specifications. The second mode converts

approximately 600 tons per day into 1,800 barrels of a heavy liquid similar to Number 6 fuel oil, suitable for power plant or industrial uses. Both modes yield environmentally acceptable, low-sulfur products.

Although the H-Coal Process was originally designed to produce power-plant fuels, operation of the pilot-plant has demonstrated the economic advantage of producing middle distillates which are widely used by the transportation industry and as heating fuel for homes. Therefore, it is expected that the second mode of production will not be utilized.

The Synthetic Fuels Corporation has received a proposal from the Ashland Oil Company to build an H-Coal plant

"Under the auspices of several companies and the Department of Energy, a pilot plant located at Catlettsburg, Kentucky is currently using the H-Coal Process to convert 200 to 600 tons of coal per day into liquid fuels."

at Breckinridge, Kentucky. This facility would utilize Illinois high-sulfur coal as well as local coals to produce 50,000 barrels of synthetic liquids per day. The plant's access to the Ohio River would permit the facile transportation of coal to the plant as well as the distribution of products to markets along the Ohio and Mississippi Rivers. Should this project be funded, it is expected that production would begin around 1988-89.

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EDDIE J. FRENCH is the Director of DFSC's Office of Synthetic Fuels.

The H-Coal Process

Hydrocarbon Research, Inc. announced this fall the completion of coal liquefaction run No. 10 during which 5,300 tons of partially dried Wyodak sub-bituminous Wyoming coal were converted to premium synthetic oil suitable for refining into high octane gasoline or petrochemical feedstocks.

Nearly 4,500 hours of operational test runs have proven the H-Coal Process technology to be successful for the conversion of both eastern bituminous and western sub-bituminous U.S. coal feedstocks. In

laboratory tests, nearly 20 different types of U.S. and foreign coals and lignites have been successfully converted by the H-coal Process into synthetic oil.

Another aspect of the flexibility of the process has also been demonstrated. At the start of a recent run, a transition of a type of feedstock occurred without disruption while the pilot plant was operating at near-design capacity in the synthetic crude mode.

The Catlettsburg pilot plant is the largest direct liquefaction synthetic fuels facility operating in the world.

New DOD Policy

Contractors found guilty of fraud against the government will no longer be able to get reimbursement under DOD contracts for costs of defending themselves, Secretary of Defense Weinberger announced recently.

This DOD policy change, which is one of two made in October to the Defense Acquisition Regulation, is expected to act as a further deterrent against fraud in Defense contracts.

Under the other change, contractors are prohibited from receiving reimbursements under DOD contracts for lobbying costs — whether the lobbying was done at the federal, state or local level. This change does not prohibit contractors from lobbying, but prevents them from receiving DOD funds as reimbursement for the costs of their lobbying activities.

The two changes are detailed in the Defense Acquisition Regulation, updated 20 October 1982, Defense Acquisition Circular 76-39.



Department of Energy photo

LET-DOWN — Liquified coal leaves the reactor at 850°F and 2,800 pounds per square inch pressure. In the high pressure let-down area, shown here, the liquid is cooled and depressurized in two steps to minimize erosion by the remaining solids and a slight amount of unconverted coal. After removing liquid which has a small amount of solids in it, the balance is separated into products by the distillation system in the background.

Fuel Line Gleanings

The Army Forces Command (FORSCOM) is testing the logistical applications of automated marking and reading symbols (LOGMARS) in operating its bulk petroleum management system (BPMS) at Fort McPherson, Georgia.

Under the test, fuel dispensing station personnel are using hand-held bar code scanners to "read" the bar code label attached to each vehicle. Information from the label, including vehicle identification and type of fuel used, is combined with the vehicle's mileage and the quantity of fuel pumped and automatically entered in the BPMS. The BPMS analyzes the combined data and provides daily management information comparing allocations to consumption.

According to a FORSCOM spokesman, the use of LOGMARS technology will greatly reduce the need to keypunch information for the BPMS. In addition, it may eliminate the use of DA Form 3643, Daily Issues of Petroleum Products.

If the Fort McPherson test proves successful, a large-scale test will be held at Fort Hood, Texas. (*Army Logistician*)

* * *

President Reagan recently signed a bill which allows grain stored by the government to be converted into alcohol fuels. The fuel produced could be made available to federal agencies for transportation and industrial uses, stored for emergency use, or sold in commercial markets. The Secretary of Agriculture will supervise the program, deciding if the conversion process is economical and assuring that sufficient stockpiles are maintained.

* * *

Oak Ridge National Laboratory is sponsoring a symposium on "Biotechnology for Fuels and Chemicals" in Gatlinburg, Tennessee on 10-13 May. Under discussion will be the technical application of biological systems and processes to the production of energy, fuels and chemicals. Contact for the event is Charles D. Scott, Chemical Technical Division, ORNL, P.O. Box

X, Oak Ridge, Tennessee 37830, telephone (615) 574-6775.

* * *

A report by the Department of Energy's Bartlesville Energy Technology Center describes a new procedure for determining the activity of microorganisms in underground petroleum reservoirs. The procedure is based upon the detection of adenosine triphosphate (ATP) in produced reservoir fluids. Single copies of "Application of ATP Measurements to the Microbial Evaluation of a Petroleum Reservoir" are available free from Bill Linville at the Center, P.O. Box 1398, Bartlesville, Oklahoma 74005.

* * *

Booklets explaining in simple terms the composition, characteristics, and suitability of fuels for autos, trucks and other vehicles have been issued by the American Petroleum Institute (API). They are "Gasoline for Your Car" (Publication #1580), "Diesel Fuel for Your Car" (Publication #1571), and "Diesel Fuel for Heavy-Duty Equipment" (Publication #1572).

The publications provide answers to some of the frequently asked questions about proper fueling, fuel additives, and fuel quality and examine issues such as the principal qualities of a gasoline which should concern consumers, the determination of the octane requirements of a vehicle, and the selection of gasoline. The booklets are available for 20 cents each through the API Publications and Distribution Section, 2101 L Street, N.W., Washington, D.C. 20037. Phone: (202) 457-7160.

* * *

Drivers are traveling more but using less gas, according to the Federal Highway Administration. Driving smaller, more fuel-efficient cars, motorists in the U.S. traveled nearly 30 billion more miles during the first nine months of 1981 than they did during the corresponding period of 1980 — but they used approximately 1.8 billion gallons less gasoline in doing so.

* * *

The latest volume in the DOE Symposium Series has been published by the Technical Information Center. It deals with potential health and environmental problems associated with coal conversion processes, e.g., liquefaction and gasification. The 620-page report, "Coal Conversion and the Environment: Chemical, Biomedical and Ecological Considerations," DE82000105, is available from the National Technical Information Service, Springfield, Va. 22161 at \$24.75.

* * *

A report on world and U.S. energy consumption and production and energy price projections under alternative assumptions about world oil prices and U.S. economic growth has been published by DOE. Copies of the report, "Energy Projections to the Year 2000, July 1982 Update," are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 061-000-00595-1, at \$6 each.

* * *

The Lubricants and Specialty Products Division of the Directorate of Contracting and Production has begun recognizing one employee each quarter for exemplary performance. Factors considered are attitude, cooperation, attendance, and special achievement. Recent winners of the award were Sherman Farves and Linda Morrison.

* * *

The 401st Tactical Fighter Wing at Torrejon AB, Spain, has won the 1982 American Petroleum Institute Award for the best base fuels operation in the Air Force. Tied for first runners-up with equally outstanding base fuels operations are the 437th Military Airlift Wing at Charleston AFB, South Carolina, and the 323d Flying Training Wing at Mather AFB, California.

The API trophy, donated in 1966 by the American Petroleum Institute, is awarded each year to the base in the Air Force that excels in fuels operations.

* * *

The third edition of "Coal Data: A Reference" has been published by DOE's Energy Information Administration. The report summarizes such subjects as coal deposits, coal mining, production, consumption and exports and includes tables, graphs, photographs and maps. Copies of the 75-page report are available from the Government Printing Office, Washington, D.C. 20402, Stock No. 061-003-00273-1, at \$5.

* * *

The results of a DOE-sponsored workshop which examined research needs in the areas of advanced fuels and engine systems have been published by Bartlesville Energy Technology Center. The report, "Fuels/Engine Interface Research: Edited Workshop Proceedings," DE82-015614 is available from the National Technical Information Service, Springfield, Va. 22161 at \$10.50.

* * *

"Energy 1983 Catalog," a 24-page brochure listing statewide, national and international programs for the year, is available free from Danette Bailey, Director, Energy Programs, Jordan College, 360 W. Pine St., Cedar Springs, Mich. 49319.

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We're Back

To Our Readers:

As many of you have observed, *Fuel Line* has been out of print since early 1982 due to a moratorium on printing. But after going through several review exercises, we're back and hope to increase our value and usefulness to you, the reader.

To do that, we need to hear from you. We welcome submissions for publication, but we're also interested in knowing of any topics you'd like to see addressed and of any suggestions you may have. We're especially anxious to hear from the field more often — we know you're out there, all over the world, and there are many other readers that are interested in how your jobs are progressing. If we receive letters to the editor, we'll print them, so if you'd like to share your perspectives, please do so.

We look forward to hearing from you!

—The Editor



PRIME PRODUCERS — Defense Fuel Region-Southwest (DFR-SW) received the Houston Federal Executive Board's annual Productivity Award for Federal activities with fewer than 100 employees. The award, which was presented at the Houston Salute to Public Service Luncheon, recognizes DFR-SW for a management initiative that resulted in a savings of approximately \$530,000 in product transportation costs. Accepting the award on behalf of DFR-SW is Kathy Bailey. William R. Kelly, Director of Administration for Program Support of Johnson Space Center and Chairman of the Houston Federal Executive Board is making the presentation.

Gearing Up for Synfuels Business

by Eddie J. French

The Energy Security Act (ESA), signed into law by President Carter in June 1980, mandated the establishment of the Synthetic Fuels Corporation, a government-supported organization whose business is to provide financial incentives for the development of synthetic-fuel production facilities. In addition to amending the Defense Production Act, the ESA specifies that DOD be consulted on its requirements and be given the right of first refusal on all products produced as a result of purchase agreements between industry and the Synthetic Fuels Corporation.

DOD has agreed to allowing synthetic fuels to fulfill up to 50% of its requirements, and, thus far, the Cor-

poration has been extremely cooperative in assisting DOD to meet this objective. At the insistence of DOD, the Corporation has extended DOD's right of first refusal to include products produced as a result of loan guarantees and other financial incentives. Additionally, the Corporation plans to give more favorable consideration to the proposals of companies whose marketing plans contain a provision for the sale of products to DOD. It is believed that the development of alternative energy sources will reduce the dependence of the U.S. on foreign suppliers, a fact which has been of concern to defense planners. Increased reliance on synthetic fuels may serve us well in times of petroleum scarcity.

DFSC has advised the Corporation of the specifications for and quantities of synthetic fuels that DOD is willing to accept. DFSC also has suggested that the Corporation provide incentives to producers of middle distillate fuels. At this time, production of fuel oil from synthetic crude is a much more economically feasible process. DFSC is assisting the Corporation in the evaluation of project proposals and in the management of projects previously awarded by the Department of Energy.

The Synthetic Fuels Corporation was officially established by Executive Order 12346 on 8 February 1982. Accordingly, \$3.5 billion appropriated for synthetic fuel development under the Defense Production Act is now transferred to the Corporation. It is expected that at least three activities will receive incentives by July 1983, and that DOD will be a beneficiary of all three fuel developments.

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EDDIE J. FRENCH is the Director of DFSC's Office of Synthetic Fuels.



American Petroleum Institute photo

SHALE PROCESSING — A technician conducts an experiment in a research project to develop environmentally acceptable methods of processing shale oil. Financial incentives by the Synthetic Fuels Corporation will be provided to projects such as this.

Fraud and Corruption Task Force Gets DFSC Lawyer

Ron Uscher, a lawyer in DFSC's Office of Counsel will join a special task force created to investigate and prosecute major fraud and corruption cases involving defense procurement contracts. Created by DOD and the Department of Justice to speed up investigations, the unit will be staffed by attorneys and investigators from Justice's fraud and civil sections as well as DOD lawyers and investigators.

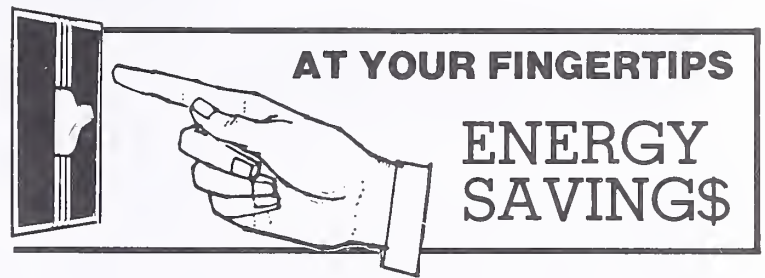
Uscher, who joined DFSC's legal staff in 1974, was appointed by DLA as its representative to the task force. Having already begun work on cases involving hardware and oil contracts, he will assume his duties with the unit on a full-time basis early in 1983.

The task force will focus on those Defense cases which represent significant dollar losses or involve wide-scale procurement abuses. In the past, much effort in investigation was duplicated when DOD turned its cases over to the Department of Justice. In creating the task force, DOD and Justice seek to expedite the filing of both criminal indictments and civil complaints.

The unit will have the power to prosecute its own cases if it has difficulty getting U.S. attorneys to take cases. Formerly, U.S. attorneys were sometimes reluctant to prosecute cases with nationwide implications if they felt that fraud in their areas was too small to be worth the expense of a trial.

Secretary of Defense Weinberger has noted that creation of the unit is a clear indication of the administration's serious intention to eliminate fraud and waste within the Department.

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Biddle Makes Top Ten List



Among this year's 10 outstanding DLA personnel is DFSC's Ed Biddle, Chief of the Management Support Office for the Directorate of Contracting and Production. Each year DLA selects 10 employees whose accomplishments merit special recognition. Biddle received the same award in 1975.

A federal employee for 20 years, Biddle began working with DLA in 1963, coming to DFSC in 1969. He served with the OSD Energy Policy Office for one year beginning in 1979, after which he returned to DFSC. The Energy Office continues to rely on him to perform studies and develop policies and solutions to highly complex and controversial problems.

He is recognized in the energy acquisition field for his sound logistical concepts and knowledge of world market conditions. On several occasions, he has accompanied the DFSC Commander and the Director of Contracting and Production on visits to Congressional staffs and committees to discuss various energy issues. He is also credited with being instrumental in the revision of DOD's petroleum acquisition policies and practices which has led to improved contract coverage.

Biddle received his award from the DFSC Commander in a special ceremony held at Cameron Station. **FL**

Personnel Notes

Recent Measures Affect Military, Civilian Retirement

About to retire, or thinking of retiring?

Here's how the "omnibus reconciliation measure," a part of the 1983 budget, which went into effect 1 October 1982, affects the federal retirement system and particularly how it affects military retirees who have taken civilian jobs with the government:

- Military retirees working for the federal government will have their annual cost-of-living adjustment (COLA) reduced to an amount equal to their military pension increase. For example, a military retiree who gets a COLA increase of \$52 a month (the equivalent of \$24 every two weeks) and would have received a \$70 COLA increase in biweekly federal pay had he or she not been receiving military retirement pay, will get \$70 minus \$24, or \$46, to offset the military pension increase.

- All pension checks have been rounded *down* to the nearest dollar. A pensioner getting \$677.46 per month before 1 October, for example, now gets an even \$677.

- After 1 October, military members obtaining federal employment will have to deposit into the civil service retirement fund an amount — probably 7% — equal to the calculated contribution for his or her military service. This can be a healthy sum: a retiree who made \$150,000 during his or her military career would have to deposit 7% of the \$150,000 — \$10,500 — in order to receive credit for the military service toward a federal pension.

- Beginning next spring, COLA payments will be delayed one month each year for three years. Pension increases scheduled to be paid next April will be made 1 May. In 1984, COLA increases will go into effect 1 June and in 1985, they will take effect 1 July.

- Retirees, both civilian and mili-



tary, under the age of 62 will receive annual COLA increases equal to one-half of the Consumer Price Index (CPI) for the preceding year, calculated each spring. Retirees 62 and over, survivors of retirees and disabled retirees will continue to receive the full COLA.

Congress voted to provide a "cushion" for retirees if inflation should exceed the levels targeted in the budget resolution. Should inflation exceed the budget estimates for fiscal years 1983-5, retirees will receive a COLA based on the budget estimates and the difference between the budget projection and the actual inflation figure.

For example, the assumed CPI for 1983 is 6.6%, but if inflation reaches 8%, the COLA will consist of 3.3% (half of the 6.6%) plus 1.4% (the amount inflation exceeded the assumed CPI), or 4.7%.

Locator Service Reunites Old Friends

Want to contact a retired servicemember, a former shipmate or someone you served with in years past?

Many active duty and retired servicemembers would like to renew old acquaintances but have lost track of their friends' whereabouts. The Privacy Act of 1974 normally prevents the military departments from releasing current addresses; however, each service operates a locator service which will forward your correspondence. The locator services will put you in touch with retirees only, with the exception of the Air Force which will help you contact active duty personnel as well, but not veterans.

Here's how to do it. On one envelope, in which you have included your message or greeting, write the name and grade of the person you're trying to find. In the upper left corner put your return address. Place a stamp in the upper right. Insert this envelope in another stamped envelope addressed to the locator service. Include your return address on this envelope, too.

Because there are so many people with identical names, accuracy of spelling and completeness of name is vital. It is also a good idea to send the locator service a data sheet, in the "outside" envelope, listing what you know about your friend's service background, duty stations, schooling, dates, etc. This will help the locators track down the individual faster.

Send your correspondence to:

ARMY: HQDA-DAAG-PSR, Alexandria, VA 22331

NAVY: USN (NMPC-641E), Washington, DC 20370

AIR FORCE: AFMPC/D003, Randolph AFB, TX 78150

MARINE CORPS: HQ USMC (MSRB-13), Washington, DC 20380

COAST GUARD: HQ USCG (G-PS-1), Washington, DC 20593

Military Assignment Advice

The Senior Enlisted Advisors of the Army and Navy and representatives of the Senior Enlisted Advisors of the Air Force and Marine Corps have told enlisted personnel that they enhance their careers through assignments with joint agencies but that they should, after completing such an assignment, seek a tour of duty with their parent military service. The advice was given during a career management symposium with the Senior Enlisted Advisors and enlisted personnel serving with DLA and other joint agencies.

Sergeant Major of the Army William A. Connelly emphasized that the Army is very selective in assigning personnel to joint agencies, normally choosing from "the upper third" in terms of qualifications and experience.

Master Chief Petty Officer of the Navy Thomas S. Crow advised military personnel serving with joint agencies to "familiarize their supervisors with the performance evaluation criteria of their respective services, because evaluation procedures differ among the services."

"One important consideration in accepting any assignment should be whether it will increase the scope of responsibilities of previous assign-

ments," stated Chief Master Sergeant George B. Heimrich, USAF, who represented Chief Master Sergeant of the Air Force Arthur L. Andrews at the symposium.

Sergeant Major William N. Justice, USMC, representing Sergeant Major of the Marine Corps Leland D. Crawford, stated that assignments with joint agencies are regarded as favorably as those with the Marine Corps. Justice agreed with Connelly, Crow, and Heimrich that reassignment to the parent Service is more likely to enhance a service career than back-to-back assignments with a joint agency.

The symposium was sponsored by DLA to provide the first forum for a dialogue between the Senior Enlisted Advisors and enlisted personnel serving with joint agencies. It was held at DLA Headquarters in Alexandria, Virginia.

Federal Jobs Await Some at Tours' End

There's good news for military and federal employee dependents who want to pursue civil service careers after returning from overseas tours.

Before the new order, overseas local hire positions — often the only type of employment available to U.S. dependents in foreign countries — were not integrated with the career civil service system used in the United States. Working spouses who were interested in continuing a career with the federal government when they returned to the United States were unable to use their overseas service to qualify for a career federal job.

Under the new guidelines, spouses who complete 24 months of service in an overseas position starting 1 January 1980, or later, may receive direct civil service appointments to positions which they qualify for in the United States.

For details on eligibility requirements for these positions, contact a local federal personnel office and ask for information on Executive Order 12362 of 12 May 1982.

Atom Test Vets: GAO Wants Info

The General Accounting Office has requested assistance in contacting veterans who were involved in atomic testing during the mid-1950s at the Nevada test site and who have knowledge of alleged falsification of military medical records in regard to radiation exposure.

Anyone having knowledge of this or of the methods used in keeping radiation exposure records at the Nevada test site for the period in question, please contact: William D. Brooks, U.S. General Accounting Office, Room A2-2200, 270 Corporate Center, Germantown, MD 20874.



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